

REMARKS

Claims 1-7 remain in the application. The paragraph numbering existing in the claims as originally filed but inadvertently left out of claims 1 and 5 in the amendment filed November 12, 2004 has been restored to those claims.

Reconsideration of the application and allowance of all claims are respectfully requested in view of the following remarks.

The present invention is directed to traffic protection in a WDM-based ring-topology optical transport network. As discussed at page 3 of the present application, MS-SPRING networks perform automatic traffic restoration by means of a synchronized re-routing of traffic, under control of or in response to messages exchanged between adjacent nodes in accordance with ITU-T Recommendation G.841. The present invention proposes to use protection triggering criteria and re-routing methods similar to ITU-T G.841, but there are some critical differences reflected in the present claims.

As discussed at the bottom of page 7, a WDM network allows transport of signals at different bit rates on different wavelengths. As a consequence, when a protection path is chosen at the same wavelength as the protected path being re-routed, it may be that the bit rate and perhaps some other characteristics do not match. To address this problem, the present invention provides each network element with a ring map (see lines 20ff. of page 8), a traffic map (lines 22ff. of page 8) and a bit rate for each path (lines 17ff. of page 9), to allow each network element to know what protections need to be implemented when a failure is detected, and to allow each

network element to reconfigure its network paths as appropriate at the time of protection switching.

Ikeda et al is directed to path protection in an optical network which may be a WDM network. Ikeda et al suggests, e.g., at lines 17-27 of column 4, that each network element may store wavelength address maps which may store the wavelength information for each path as well as the failure information for the various paths. But Ikeda does not teach or suggest what is disclosed and claimed in the present case.

For example, Ikeda does not divide the network capacity evenly between working and protection capacity, but instead allows the entire network capacity to be used for either working capacity or network capacity. Ikeda et al also does not teach or suggest providing to each network element all three of a ring map, a traffic map with path characteristics, and a bit rate for each path.

At page 3 of the Office action the examiner has not included any text citations in his comments concerning most of the last paragraph of claim 1. The undersigned does not see where these features are set forth in Ikeda et al, particularly with respect to steps i) and ii). The control means 3 within each transmission equipment includes a wavelength address map. The wavelength address map is shown in Fig. 10, and includes a list of all the path numbers between each pair of nodes, and the protection paths that correspond to each, and the availability status of each protection path. But this is not a traffic map, nor does it say anything about the bit rate for each path.

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The secondary references do not supply the teaching missing from Ikeda regarding the type of information to be maintained by each network element. Thus, even if the teachings of the references were combined by one of ordinary skill in the art, the result could not have included a feature taught by none of the references, e.g., the provision of a traffic map with path characteristics, and a bit rate for each path.

Claim 5 distinguishes over the art for the same reasons.

All remaining claims depend directly or indirectly from claims 1 or 5.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

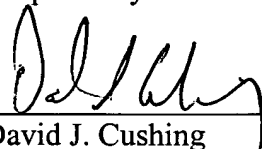
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